

SECTION 06311 - PRESERVATIVE TREATED LUMBER

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

- A. As specified in Section 00700.

1.02 SUBMITTALS

- A. A Certificate of Treatment shall be issued to the Engineer showing compliance with these specifications, both as to kiln drying and type of treatment performed, including dip treatment.
- B. The Contractor shall submit a written certification to the Engineer that all wood used and left in place on this job was treated in accordance with these specifications and that all cuts and penetrations made subsequent to the treatment were coated with preservatives in compliance with Sub-section 3.04.

Manufactured casework specified in other sections must also be treated in accordance with these specifications. Be sure to specify this.

1.03 GUARANTY

- A. The Contractor shall submit to the Engineer a written guaranty that he will replace all treated wood which is attacked by subterranean termites within a period of two years from the date of project acceptance up to a total cost of \$5,000.00 as verified through a cost breakdown in accordance with Section 8.4(b) "Force Account Work" of the General Conditions or is attacked by dry wood termites or deteriorates due to dry rot within the first five years of the project acceptance date. The Surety shall not be held liable beyond two years of the project acceptance date.

Delete this paragraph for renovation projects in which new wood construction is butted up against existing wood construction.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All wood treated with oil-borne preservatives shall be kiln-dried before treatment to an average moisture content of 12% to 15% per AWPA standards.
- B. All wood treated with water-borne preservatives (with the exception of Hi-Bor (SBX) treated wood) shall be air dried or kiln-dried before treatment to an average moisture content of 28% or less per AWPA standards. Wood having a moisture content higher than 28% is acceptable when treating with Hi-Bor (SBX).

- C. All wood shall be treated as noted below except all-heart redwood.
- D. Lumber shall be milled to finish size and shape prior to treating, and it shall be treated before assembly. Plywood may be treated in regular panel sizes.

2.02 MATERIALS

- A. Asbestos Prohibition: No asbestos containing materials or equipment shall be used under this section. The Contractor shall ensure that all materials and equipment incorporated in the project are asbestos-free.
- B. Water-Borne Preservatives shall be Wolman CCA, Osmose CCA, Supatimber CCA or Chemonite ACZA or Hi-Bor (SBX) in accordance with American Wood Preservers Association (AWPA) Standard P5. Preservatives shall be EPA registered.
- C. Water-Borne Preservatives used to coat end cuts and penetrations within CCA or ACZA treated wood shall be Wolman (R) Treat 00, Wolman (R) Clear or Osmose Special K-33 Preservative. Preservatives shall be EPA registered.
- D. Water-Borne Preservatives used to coat end cuts and penetrations in HI-BOR (SBX) treated wood shall be Clear-Bor F.T. or an equivalent solution of 10% inorganic boron. The end coating solution must be approved and labeled by the Environmental Protection Agency and must be accepted by the State of Hawaii, Department of Agricultural Pesticide Division for this purpose. The treatment solution shall have a colorant added which will tint the wood surface to indicate treatment.
- E. Oil-Borne Preservatives shall be TRIB II (0.50% by weight chlorpyrifos, 0.75% by weight 3-iodo-2-propynyl butyl carbamate [IPBC]), Perma-Clear 65 (Zinc Naphthenate and Permethrin) or DAP Inc. "Premium Woodlife" (for dip treatment only), manufactured to the manufacturer's quality control and EPA registered. The solvent used in formulating the preservative solution shall meet the requirements of AWPA hydrocarbon solvent Type C, Standard P9, Paragraph 3.1.

PART 3 - EXECUTION

3.01 WOOD PRESERVATION WITH WATER-BORNE PRESERVATIVES

- A. Unless otherwise stipulated, all lumber and plywood shall be pressure treated.
- B. Lumber and plywood, except as stipulated in Paragraphs 3.02 and 3.03 below, shall be treated with Wolman CCA, Osmose CCA or Supatimber CCA in accordance with American Wood Preservers Bureau Standards AWPB APPROVED (Hawaii Use only) or with Chemonite ACZA in accordance with American Wood Preservers Bureau Standards AWPB LP-2 or Hi-Bor (SBX), using the full cell pressure method in conformance with APWA Standard C1-93. Lumber and plywood treated with Hi-Bor (SBX) shall attain the following penetration **and retention** requirements:
 - 1. Lumber:
 - a. Penetration requirement for lumber under 5 inch nominal thickness: 0.40 inch in heartwood and **90%** in sapwood.
 - b. Penetration requirement for lumber 5 inch nominal thickness and over: 0.50 inch in heartwood and **90%** in sapwood.
 - c. Retention requirement for lumber shall be a minimum of **1.50% weight/weight** or **0.42 pounds per cu. ft.** in an assay zone of 0.0 - 0.6 inches **for lumber under 5 inches nominal thickness** and 0.0 - 0.75 inches **for lumber over 5 inches in nominal thickness.**
 - 2. Plywood:
 - a. Penetration requirement for plywood shall be identical to that noted in AWPB C9-90.
 - b. Retention requirement for plywood shall be a minimum of **1.27% weight/weight** or **0.40 pounds per cu. ft.** through the full thickness.
- C. All 1" and 2" lumber and all plywood shall be dried to a moisture content of 19% or less after treatment.

- D. Bleacher seat planks shall be cut and drilled prior to treatment, and both seat planks and roof decking shall be kiln-dried to a moisture content of 15% or less after treatment.

Call for and show over-sizing and/or elongation of bolt holes in seat-board support frames to permit adjustments during installation.

3.02 WOOD PRESERVATION BY PRESSURE TREATMENT WITH OIL-BORNE PRESERVATIVES

- A. Hardwood flooring and exposed lumber 1-1/2" (net thickness) and over that will be unpainted or receive a clear finish shall be unincised and pressure treated in accordance with the process specifications noted in the latest edition of AWPA Standard C-1, C-2 and C-9.
- B. Treated wood shall attain the following net retention requirements:
1. TRIB II: 0.0175 lbs. of Chlorpyrifos per cu. ft. of wood, 0.035 lbs. of 3-Iodo-2 propynyl butyl carbamate per cu. ft. of wood.
 2. Perma-Clear 65: 0.06 lbs. of zinc as metal per cu. ft. of wood and 0.006 lbs. of Permethrin per cu. ft. of wood.

3.03 WOOD PRESERVATION BY DIP TREATMENT

- A. All finish lumber under 1-1/2" net thickness (except hardwood flooring); doors (**solid wood and solid-core flush wood doors**); finish plywood; and mill work items, such as for cabinet work, shelving and similar wood work that will be exposed to view in the finished work shall be immersion treated for a minimum period of 15 minutes in any of the preservatives listed in Section 2.02 D. Oil-Borne Preservatives above or in a solution of 1 quart chlopyrifos in 55 gallons of a 0.50% IPBC solution. **Hollow-core flush wood doors shall be immersion treated for a period of 5-minutes.**
- B. Doors shall be treated after manufacture but, where applicable, before application of plastic laminate.

Be sure to specify wood core and Type I glue for **solid-core flush wood doors**. Also call for laminated plastic with molding edge band where applicable.

Note: Since door mfrs. do not preservative treat the doors, their warranty will not cover such treatment performed by others. The treatment and doors shall be warranted by the Contractor. Be sure to address this under the Wood Door specifications.

3.04 INSTALLATION

- A. **Wood shall be thoroughly dried and virtually odor-free prior to installation.**
- B. Wherever it is necessary to end cut or penetrate into (such as by drilling or notching) treated wood on the job, all such cuts and penetrations shall be treated in accordance with AWPA Standard M4-84 using two heavy brush coats of a treating solution noted in the following schedule. Exception: Cuts and penetrations made in Hi-Bor (SBX) treated wood 2 inches or less in nominal thickness need not be field treated.

<u>INITIAL WOOD TREATMENT</u>	<u>FIELD TREATMENT</u>
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Wolman CCA	Wolman (R) Treat 00
Osmose CCA	Osmose Special K-33
	Preservative
Supatimber CCA	Wolman (R) Treat 00 or
	Osmose Special K-33
	Preservative
Chemonite ACZA	Wolman (R) Treat 00
TRIB II	Wolman (R) Clear
Perma-Clear 65	Perma-Clear 65
Hi-Bor SBX	Clear-Bor F.T. (with
	colorant added)

Be sure to include
reference to this
requirement for field
treatment in your
Carpentry Section.

- B. Perma-Clear 65 and Hi-Bor (SBX) treated wood shall not be used in areas exposed to direct precipitation (e.g. exposed decking, trellises, fencing, etc.) unless painted or covered with a finish material.

END OF SECTION